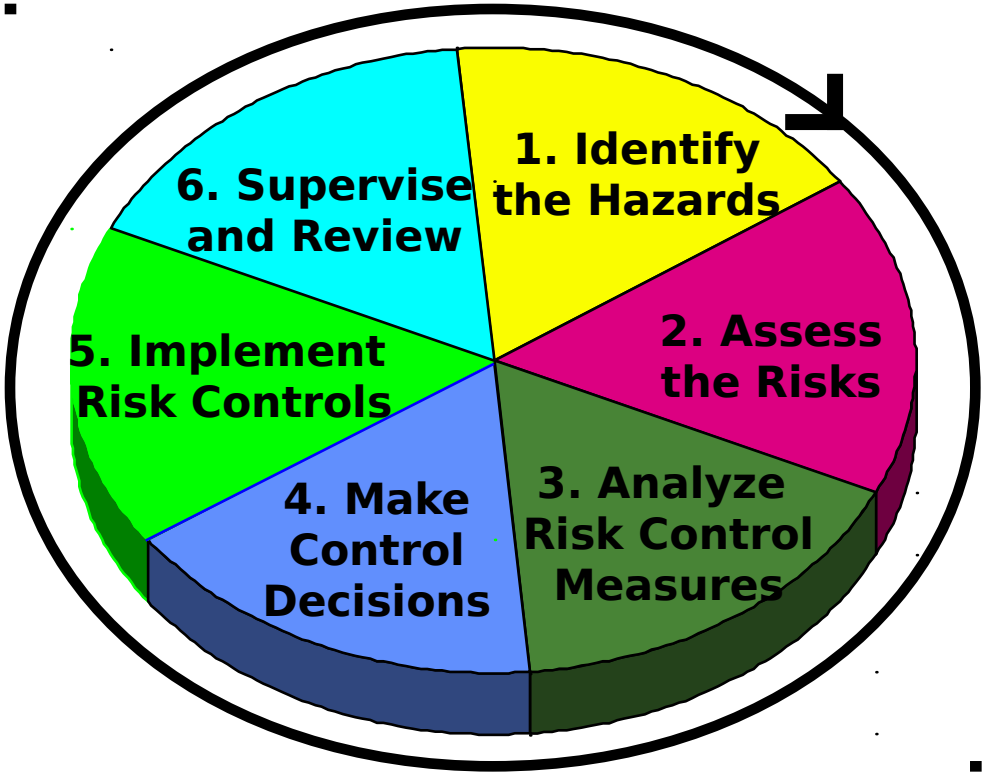
AFRL Supervisor's & Manager's Operational Risk Management (ORM)


1. Identify the Hazards
2. Assess the Risks
3. Analyze Risk Control Measures
4. Make Control Decisions
5. Implement Risk Controls
6. Supervise and Review

MAJ TIM BYRNE

AFRL/HEPR

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

- **Guidance**
  - **AF Chief of Staff, 2 Sep 96**
  - **AFMC/CC, Commander's Policy, 11 Dec 97**
  - **HSC/CC directed implementation, 25 Feb 98**
  - **HSC Steering Group established, 23 Apr 98**
  - **AFI 91-213, Operational Risk Management**
  - **AFPAM 91-215, ORM Guidelines and Tools**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

- **Unit Commanders:**
  - **Provide training to unit**
  - **Incorporate identified hazard, assessment controls into briefs, notices and written pl**
  - **Conduct thorough risk assessment for new complex evolutions, defining acceptable ri possible contingencies**
  - **Address ORM process in safety, training a lessons learned reports**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

- **What is ORM?**
  - **It is a logic-based <u>common sense approach</u> to making <u>calculated decisions</u> on human, materiel and environmental factors…before, during, and after Air Force Mission Activities and Operations (on and off the job.)**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

- **The USAF ORM Concept**
  - **Risk is inherent in all operations**
  - **Risk can be controlled**
  - **All are responsible for using ORM**

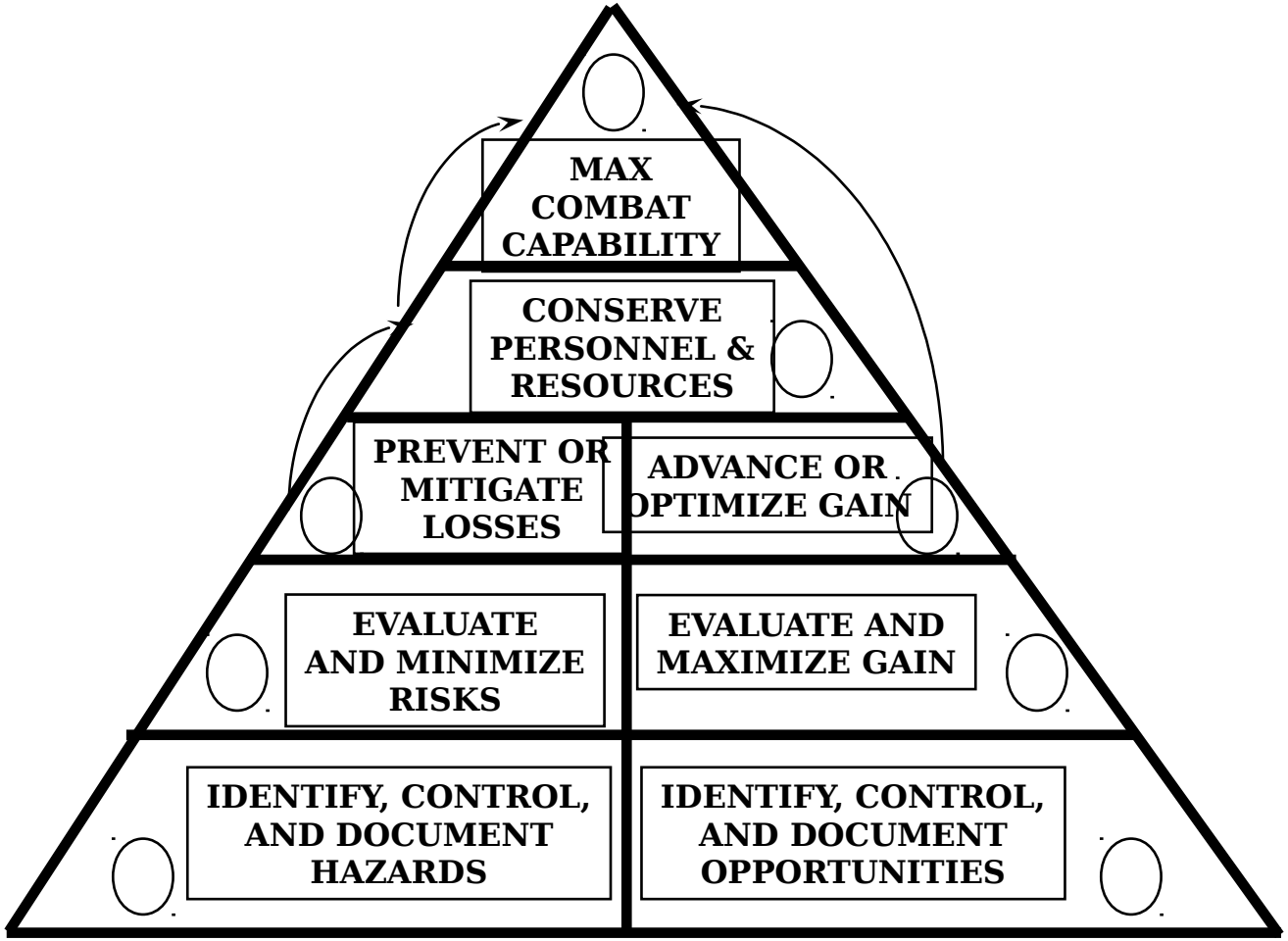
AFRL Supervisor's & Manager's Operational Risk Management (ORM)

- **Purpose**
  - **Maximize combat capability and enhance**

mission effectiveness while preserving asse

and safeguarding health and welfare

AFRL Supervisor's & Manager's Operational Risk Management (ORM)


MAX COMBAT CAPABILITY
CONSERVE PERSONNEL & RESOURCES
PREVENT OR MITIGATE LOSSES
ADVANCE OR OPTIMIZE GAIN
EVALUATE AND MINIMIZE RISKS
EVALUATE AND MAXIMIZE GAIN
IDENTIFY, CONTROL, AND DOCUMENT HAZARDS
IDENTIFY, CONTROL, AND DOCUMENT OPPORTUNITIES

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

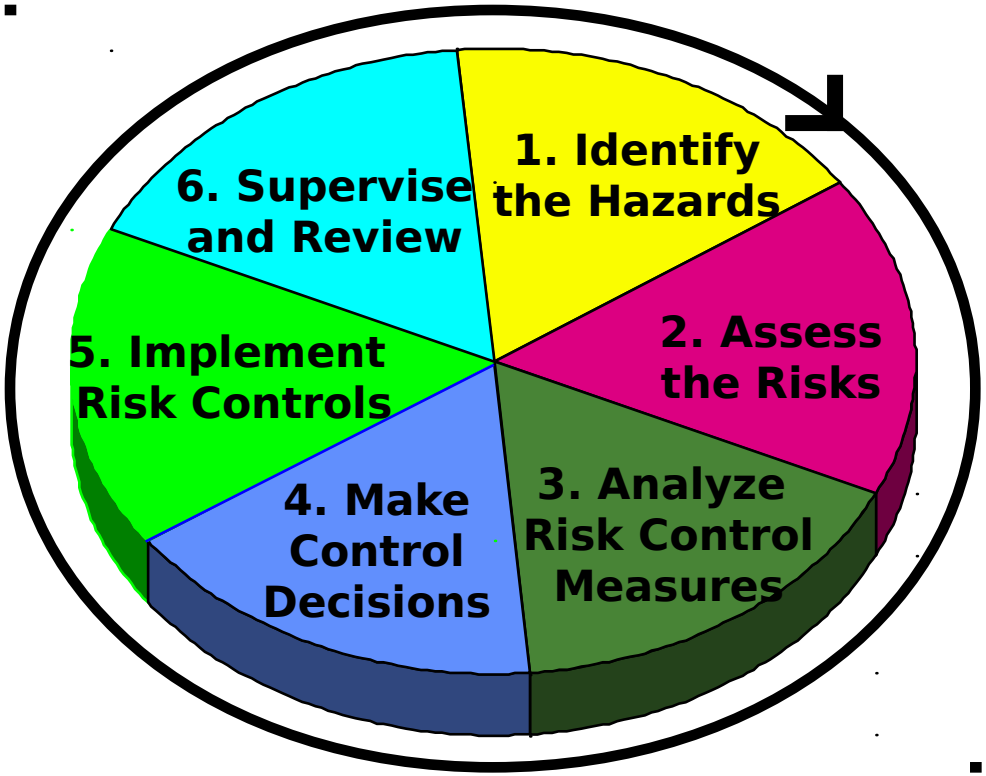
- **Level 1 - 1 Week for Facilitators**
- **Level 2 - 4 Hours for Sups/Managers**
- **Level 3 - All - CPU Based Training On We**
- **Level 4 - 2 Hours for Executives**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

KEY ORM PRINCIPLES

- **Accept no unnecessary risks.**
- **Make risk decisions at the appropriate level.**
- **Accept risks when benefits outweigh costs.**
- **Integrate ORM into doctrine and planning at all levels.**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)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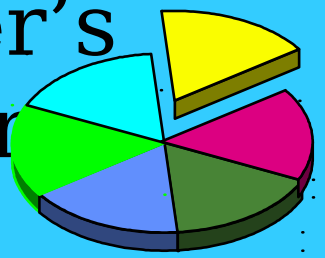
AFRL Supervisor's & Manager's Operational Risk Management (ORM)



STEP 1
IDENTIFY THE HAZARD

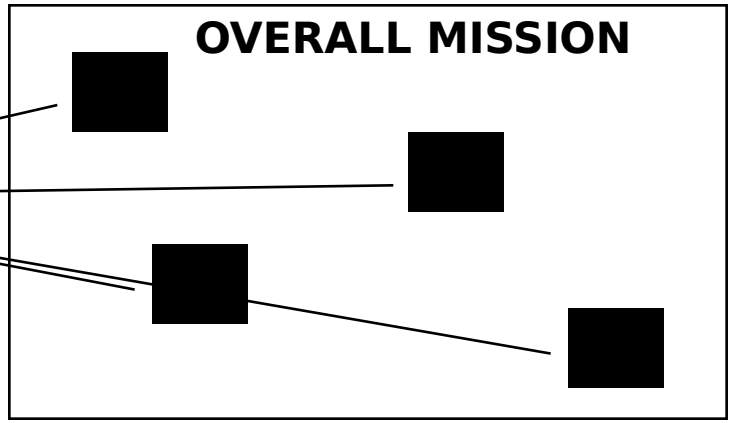
Action 1: Mission/task analysis → **Action 2: List Hazards** → **Action 3: List Causes**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

MISSION TASK ANALYSIS

What is at risk?

Focus on the critical components of the mission. They will be primary targets for Hazard ID.



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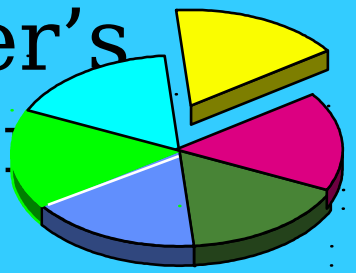
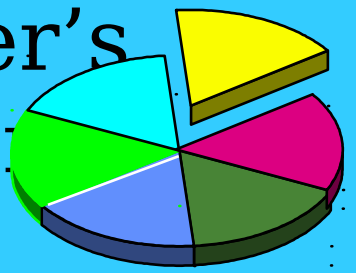


7 Primary Hazard ID Tools

- **Operations Analysis - Block diagram or flow chart**
- **Preliminary Hazard Analysis - Look at energy causes**
- **"What if" Analysis - Brainstorm**
- **Scenario Process - Stories**
- **Logic Diagrams - "Tree" shaped diagrams**
- **Change Analysis - Compares changes to baseline**

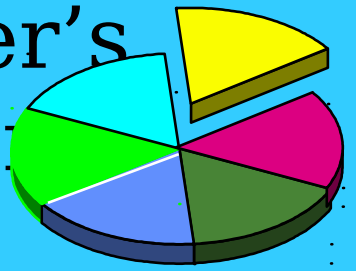


THE PRELIMINARY HAZARD ANALYSIS

- **Hazards are Caused by Energy**

Force	**Acceleration**
Chemical	**Vibration**
Electrical	**Environmental**
Kinetic	**Pressure**
Potential	**Thermal**
Radiation	**Humans**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)



LIST CAUSES

Man - Doesn't know - Training, Doesn't care - Motivation, Can't do - Selection.

Machine - Poor design, faulty maintenance, procedures.

Media - Weak facility design, lack of provisions for natural phenomena.

Management - Inadequate procedures, standards and controls.

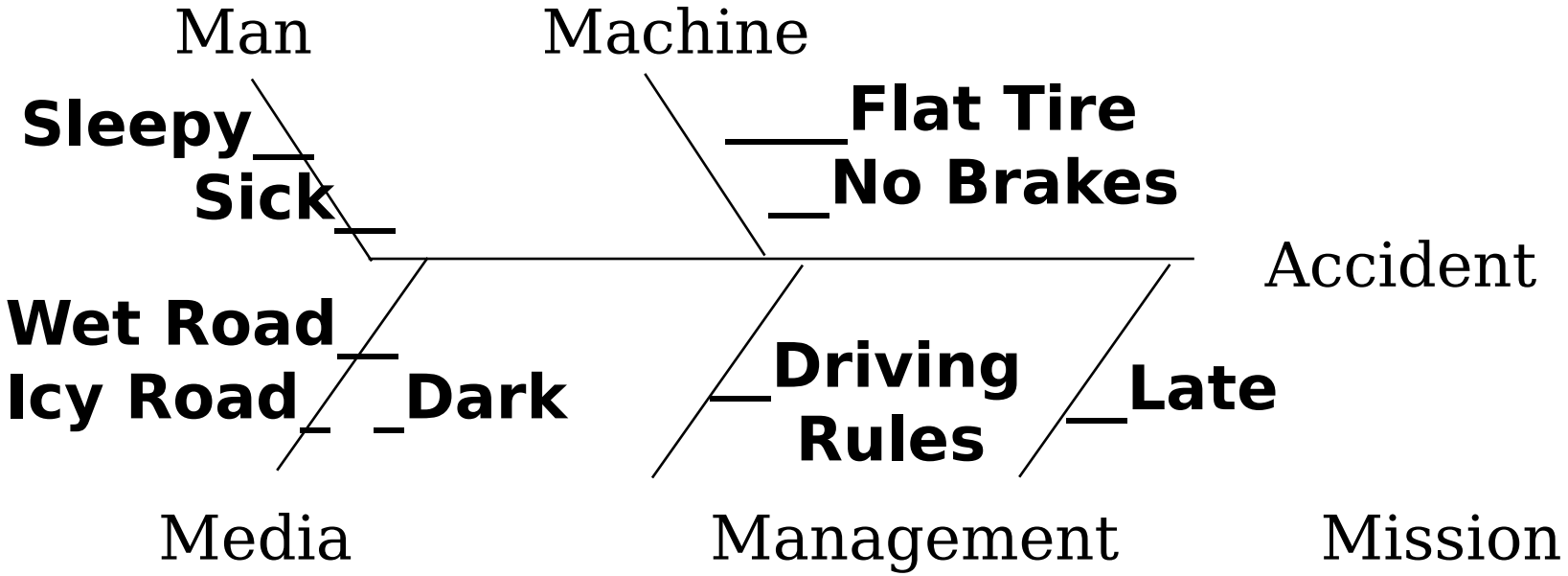
Mission - Poorly developed, weak understanding, incompatibilities.

Use the 5M model to detect root (systemic) cause factors.

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

THE CAUSE AND EFFECT DIAGRAM

"THE DRIVE TO WORK"



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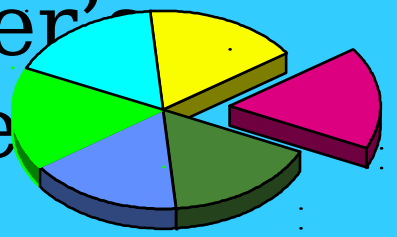

STEP 2
ASSESS THE RISK

Action 1: Assess hazard exposure → **Action 2:** Assess hazard severity → **Action 3:** Assess mishap probability → **Action 4:** Complete assessment

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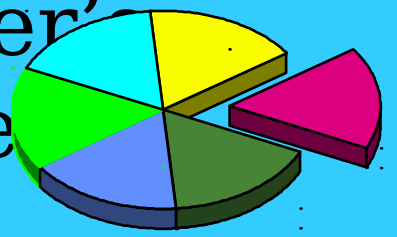
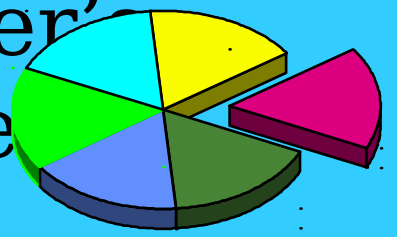


HAZARD VERSUS RISK

HAZARD → **A description of a condition that can cause loss. No indication of its mission significance.**

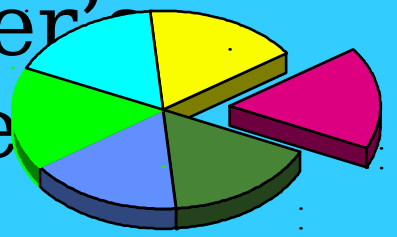
RISK → **A hazard for which we have estimated the severity, probability, and scope with which it can impact our mission.**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)



PROBABILITY CATEGORIES

- **Frequent - occurs often**
- **Likely - occurs several times**
- **Occasional - will occur**
- **Seldom - could occur**
- **Unlikely - will not occur**



Severity Categories

<u>CATASTROPHIC</u> - Complete mission failure, death, or loss of system,

Class A mishap, cost >$1 Million.

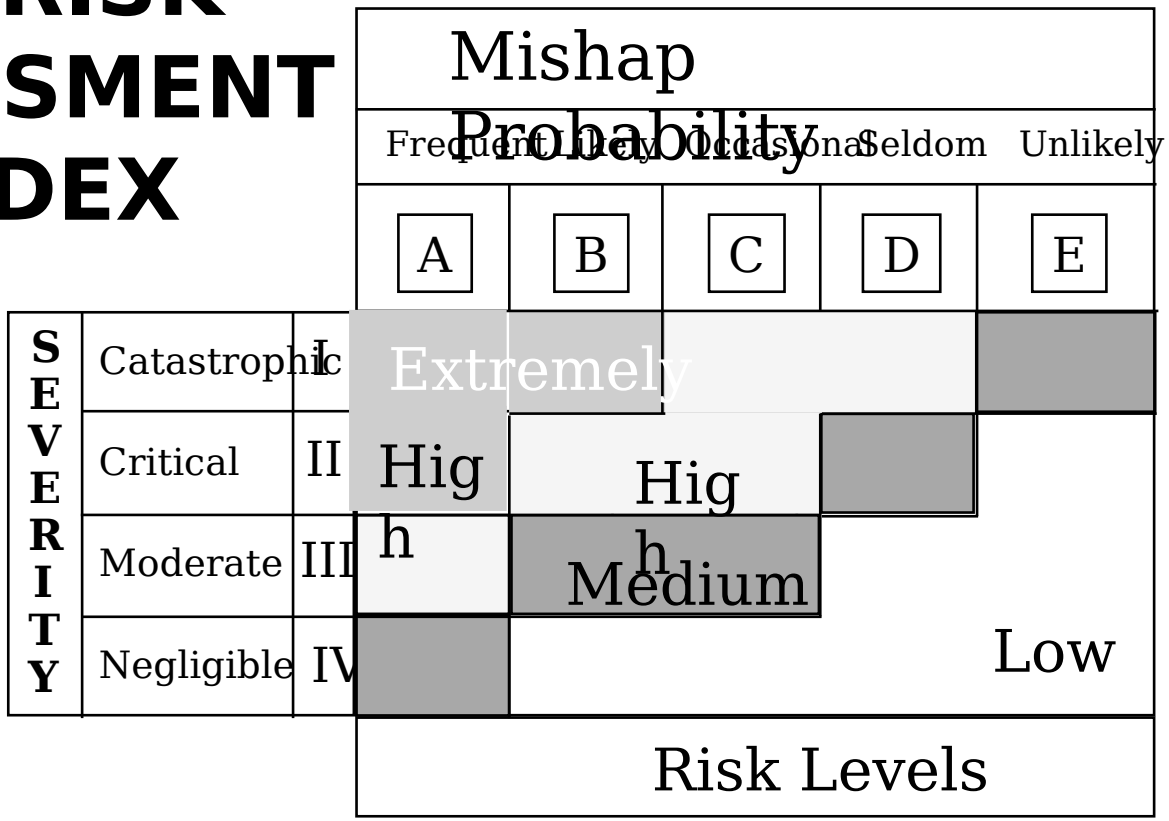
<u>CRITICAL</u> - Major mission degradation, severe injury, occupational illness, or major system damage, Class B mishap, cost >$200,000

<u>MODERATE</u> - Minor mission degradation, injury, minor occupational illness, or minor system damage, Class C mishap, cost >$10,000

<u>NEGLIGIBLE</u> - Less than minor mission degradation, injury, occupational illness or minor system damage, Cost

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

THE RISK ASSESSMENT INDEX



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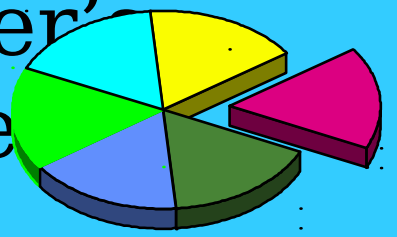

THE *"ENHANCED"* RISK ASSESSMENT MATRIX

- Assignment of Numbers to Rank Risks More Quantitatively

SEVERITY		Mishap Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
		A	B	C	D	E
Catastrophic	I	1	2	6	8	12
Critical	II	3	4	7	11	15
Moderate	III	5	9	10	14	16
Negligible	IV	13	17	18	19	20
		Risk Levels				

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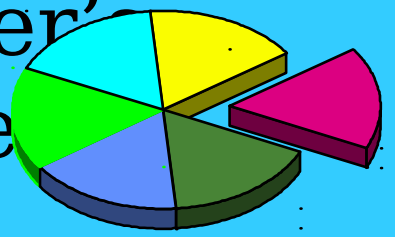

THE RISK TOTEM POLE

Greatest hazard

Smallest hazard worthy of action

BY RANKING THE HAZARDS WE CAN WORK THEM ON A PRIORITY BASIS. THIS IS VITAL BECAUSE RISK CONTROL RESOURCES ARE ALWAYS LIMITED AND SHOULD BE DIRECTED AT THE BIG PROBLEMS FIRST TO ASSURE MAXIMUM BANG FOR THE BUCK

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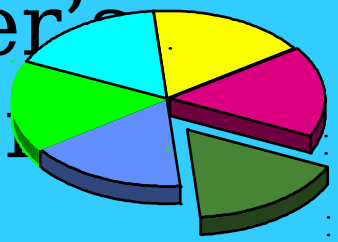

STEP 3
ANALYZE RISK CONTROL MEASURES

Action 1:
Identify control options

→

Action 2:
Determine control effects

→

Action 3:
Prioritize risk control measures

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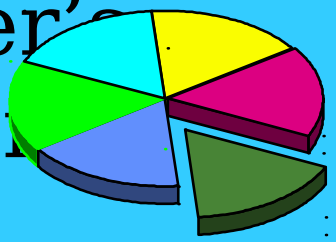
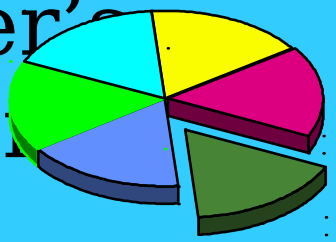


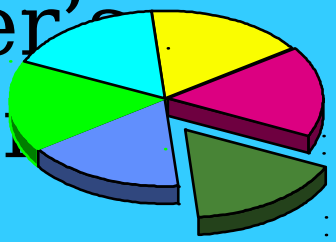
MACRO OPTIONS LIST

- **Reject - Don't do it**
- **Avoid - Do it a different way**
- **Delay - Wait…maybe it will go away**
- **Transfer - Use technology**
- **Spread - Use "Decoys"**
- **Compensate - Create redundancy/budget**
- **Reduce - Plan! Use: safety devices, warning devices, guidance & training**



RISK CONTROL OPTIONS MATRIX

- **Engineer**
- **Guard**
- **Improve Task Design**
- **Limit Exposure**
- **Selection of Personnel**
- **Train and Educate**
- **Warn**
- **Motivate**
- **Reduce Effects**
- **Rehabilitate**



PRIORITIZE RISK CONTROL MEASURES

- **Get operator input**
- **Focus risk controls where they have maximum impact**
- **Benchmark already existing risk controls**

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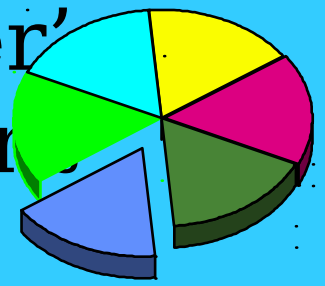

STEP 4
MAKE CONTROL DECISIONS

Action 1: Select Risk Controls → **Action 2: Make Risk Decisions**

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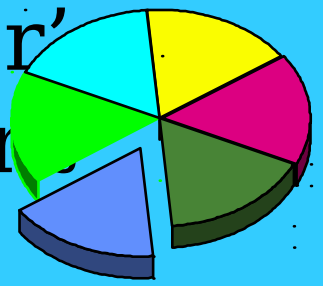

SELECT RISK CONTROLS

SOME IMPORTANT DECISION MAKING CONSIDERATIONS

- **Make decisions at the right time**
- **Make decisions at the right level**
- **Always make the mission supportive risk decision**

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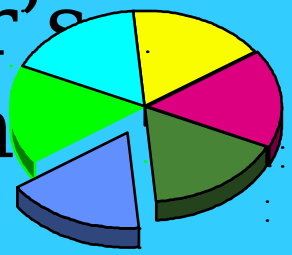
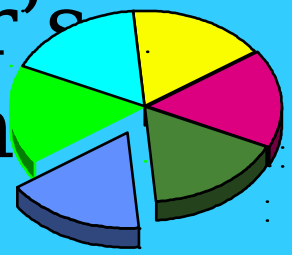


- **EXAMPLE**

RISK LEVEL	**DECISION LEVEL**
Extremely High	**Wing CC or authorized designee**
High	**Group CC or authorized designee**
Medium	**Flight leader / senior leader on**
Low	**Any person in a leadership positi**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)



"A GENERAL PRINCIPLE"

Endeavor to Push the Average Risk Decision Down the Chain of Command Over Time

Detail and Understanding Increases the Closer to the Operator You Get

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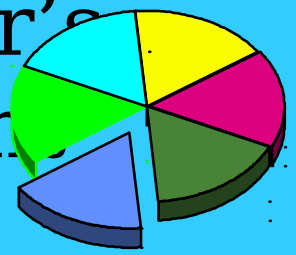

Action 1: Select Risk Controls

Action 2: Make risk decision

Go/No-Go???

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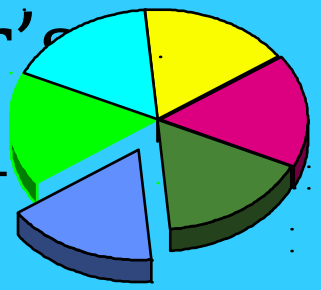


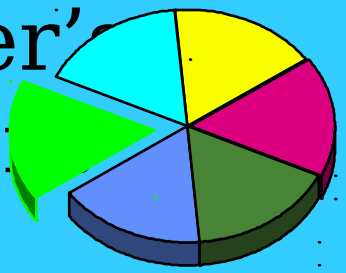
Always go for the risk when total benefits outweigh total costs

Always reject the risk when total costs outweigh total benefits

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

STEP 5
IMPLEMENT RISK CONTROLS

Action 1: Make implementation clear → **Action 2: Establish accountability** → **Action 3: Provide support**



MAKE IMPLEMENTATION CLEAR

- **Factors to consider:**
  - **Fully involve operational personnel**
  - **Frame control within organizational culture**
  - **Provide specific task-oriented guidance**
  - **Test it on small sample of the target audience**
  - **Coordinate the loss control team**

ESTABLISH ACCOUNTABILITY

- **Factors to consider:**
  - **Use the power of command and leadership**
  - **Use the motivation model**
  - **Create meaningful, positive incentives**
  - **Assure accountability is vertically integrated**

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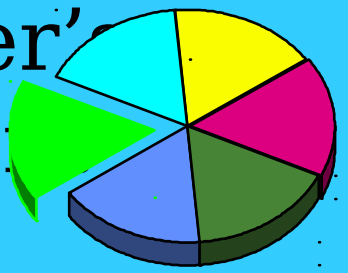
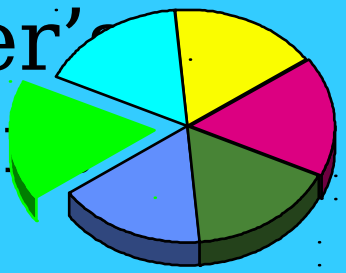


USING THE POWER OF COMMAND

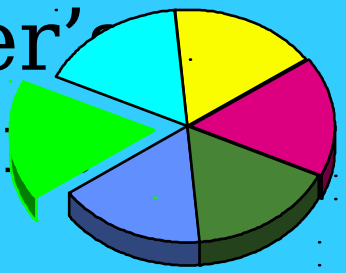
- **Sustained consistent behavior** **STRONGER**
- **On-going personal behavior**
- **Accountability actions and follow up**
- **Follow up inquiries by phone and visits**
- **Verbal support in staff meetings**
- **Sign directives** **WEAKER**



PROVIDE SUPPORT

- **Factors to consider:**
  - **Avoid the common problems.**
  - **Provide complete packages (clear, policy, job aids, decision tools, models, databases, training, motivation).**
  - **Provide sustained feedback on results.**

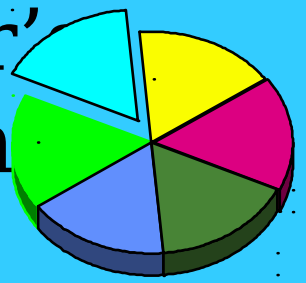
AFRL Supervisor's & Manager's Operational Risk Management (ORM)



WHY IMPLEMENTATION GOES WRONG

- **Wrong control for the problem.**
- **Operators dislike it.**
- **Leaders dislike it.**
- **It's too costly.**
- **It's overmatched by other priorities.**
- **It's misunderstood.**
- **Nobody measures until it is too late.**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)



STEP 6
SUPERVISE AND REVIEW

Action 1: Supervise → **Action 2: Review** → **Action 3: Feedback**

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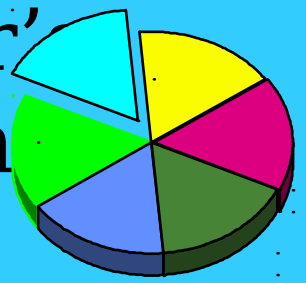

SUPERVISE

- **Risk controls are supervised just like any other leadership action.**

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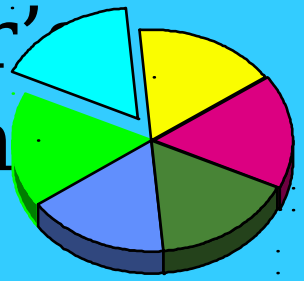

REVIEW

- **Systematically assess the results of the ORM process, i.e. How is the mission progressing?**
- **Adapt and reapply ORM as the mission unfolds.**

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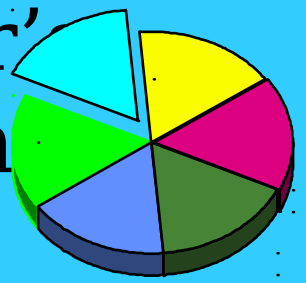
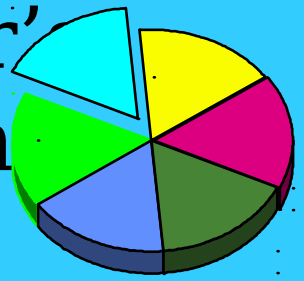


REVIEW

- **MEASURE EFFECTIVENESS**
  - **RATES**
  - **NUMBERS**
  - **MEASURES OF RISK**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)



FEEDBACK

- **Factors to consider:**
  - **Cross-talk regarding successes and failures**
  - **Feedback to leaders and airmen/employees**
  - **Input to established databases (lessons learned)**

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

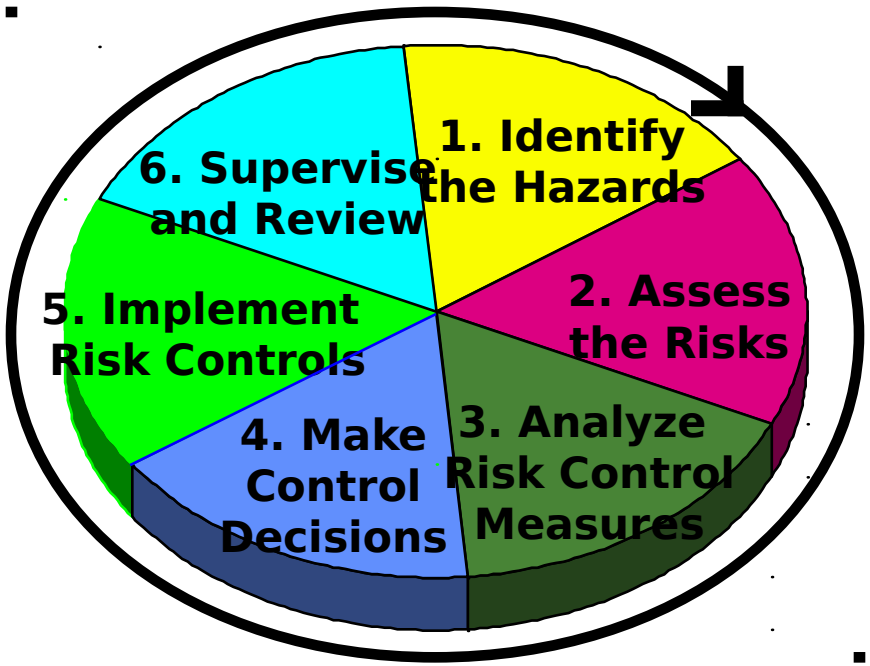
"In all tasks we perform, risk manageme

is the most universal and critical process

GEORGE T. BABBITT
General, USAF
Commander

AFRL Supervisor's & Manager's Operational Risk Management (ORM)

Questions?


1. Identify the Hazards
2. Assess the Risks
3. Analyze Risk Control Measures
4. Make Control Decisions
5. Implement Risk Controls
6. Supervise and Review